

REMARKS

Claims 1-30 were pending in this application at the time the present Office Action was mailed, claims 10-19 and 21-30 having been withdrawn from consideration pursuant to an earlier Restriction Requirement. Claims 1 and 20 have been amended. Accordingly, claims 1-9 and 20 are now under consideration.

In the present Office Action, the Examiner rejected claims 1-9 and 20. More specifically, the status of the claims in light of this Office action is as follows:

(A) Claim 20 is rejected under 35 U.S.C. §102(b) as being anticipated by Hayes et al. (US Patent No. 5,687,830); and

(B) Claims 1-9 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hayes et al. (US Patent No. 5,687,830), in view of Hutchinson et al. (US Patent No. 6,398,001).

A. Response to the Section 102(b) Rejection of Claim 20

Independent claim 20 was rejected under 35 U.S.C. §102(b) as being anticipated by Hayes. Claim 20 has been amended to overcome this rejection. As amended, claim 20 recites automatically adjusting the amplitude *and frequency* of a measurement signal to maintain a baseline value at a constant level over an operating temperature range.

Nowhere does Hayes teach or suggest this feature. In contrast, Hayes is based entirely on the measurement of the signal *amplitudes* and, therefore, his calibration scheme is strictly concerned with adjusting signal magnitudes (See, for example, Hayes at column 6, lines 65-67; and column 7, lines 1-12). Hayes neither teaches nor suggests calibrating *the frequency* of the signals under any circumstances including aging and temperature variation.

Hayes is completely silent about frequency calibration and adjustment because the foundation of Hayes's invention is the use of statistical values computed from the signal

amplitudes. It is important to note that the adjustment or calibration of frequency is irrelevant to Hayes's basic idea.

Indeed, even the passage cited by the Examiner (Hayes column 5, lines 36-53) clearly indicates that Hayes is only concerned with the adjustment of signal amplitudes. Specifically, the passage states: "digital data...indicating the amplitude correction factor of the oscillation on induction device 12," and "digital data signal corresponding to the amplitude correction factor of the oscillation on induction device 14."

For a claim to be properly rejected under Section 102, "the reference must teach every element of the claim." (MPEP 2131). Hayes does not teach or suggest the frequency adjustments recited in amended claim 20. Accordingly, Hayes cannot support a proper Section 102 rejection of claim 20 for at least this reason. Therefore, the rejection should be withdrawn.

B. Response to Section 103(a) Rejection of Claim 1

Independent claim 1 was rejected under 35 U.S.C. §103(a) as being unpatentable over Hayes in view of Hutchinson. The Office Action states that Hayes shows all elements of claim 1 except that the signals represent size and composition. The Office Action then suggests, however, that Hutchinson teaches this feature. Claim 1 has been amended to overcome this Section 103 rejection. As amended, claim 1 recites automatically controlling a quiescent voltage level over at least one range of operating temperatures by controlling amplitudes *and frequencies* of the signals.

A *prima facie* case of obviousness under Section 103 requires, *inter alia*, that the combined references teach or suggest all the claim features. (MPEP 2142). In light of the amendment to claim 1, Hayes and Hutchinson fail to teach or suggest the claimed invention. As set forth above in regard to the Section 102 rejection of claim 20, Hayes is based entirely on the measurement of signal amplitudes and, therefore, his calibration scheme is strictly concerned with adjusting signal magnitudes (e.g., column 6, lines 65-67 and column 7, lines 1-12). Hayes neither teaches nor suggests calibrating the *frequency*

of signals under any circumstances including aging and temperature variation. Furthermore, Hutchinson fails to cure the deficiencies of Hayes. Therefore, Hayes and Hutchinson, either alone or in combination, cannot support a proper Section 103 rejection of claim 1 for at least this reason. Accordingly, the rejection of claim 1 should be withdrawn.

C. Response to Section 103(a) Rejection of Claims 2-9

Claims 2-9 depend from base claim 1. Accordingly, Hayes and Hutchinson cannot support a Section 103 rejection of dependent claims 2-9 for at least the reason that these references cannot support a Section 103 rejection of base claim 1, and for the additional features of these dependent claims. Therefore, the rejection of claims 2-9 should be withdrawn.

D. Conclusion

In view of the foregoing, the claims pending in the application comply with 35 U.S.C. § 112 and patentably define over the applied art. Therefore, a Notice of Allowance is respectfully requested. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call the undersigned at (206) 359-6351.

Respectfully submitted,

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